I claim:

1. A method for remote emissions sensing with NO_x detection capability comprising the steps of:

taking an ambient reading of ambient NO_x concentration present prior to a vehicle passing by a system for remote emissions sensing;

taking an exhaust plume reading of an exhaust plume of the vehicle as the vehicle passes by the system for remote emissions sensing; and

subtracting the ambient NO_x concentration reading from the exhaust plume reading to provide a concentration reading for the NO_x present in the vehicle emissions.

2. The method of claim 1 further comprising the steps of taking a blocked beam reading prior to taking an exhaust plume reading and when the vehicle is in the path of a source beam of the system; and

subtracting the blocked beam reading from the exhaust plume reading.

3. The method of claim 2, wherein the ambient reading is taken at predetermined intervals and wherein the most recent reading is stored and used in connection with the blocked beam and exhaust plume readings for each vehicle.

4. The method of claim 1, wherein the ambient reading is taken at an occurrence of a predetermined trigger event.

5. The method of claim 2, wherein the blocked beam reading measures baseline current or noise in the system and wherein the blocked beam reading is taken after the ambient reading but before the exhaust plume reading.

6. The method of claim 1, wherein a range of wavelengths substantially centered around a characteristic wavelength is selected over which to take readings so that the number of data points for which there is no significant NO_x absorption is minimized.

7. The method of claim 1, further comprising the step of subtracting a baseline intensity from each exhaust plume reading to compensate for changes in radiation intensity.

8. The method of claim 6, wherein the baseline intensity is calculated using a substantially linear region over an absorption dip.

9. The method of claim 2, wherein the ambient reading is taken just prior to the blocked beam reading.

10. A system for remote emissions sensing with NO_x detection capability comprising:

a source beam of radiation;

a means for taking an ambient reading of ambient NO_x concentration present prior to a vehicle passing by the system;

a means for taking an exhaust plume reading of an exhaust plume of a vehicle; and

a means for subtracting the ambient NO_x concentration reading from the exhaust plume reading.

11. A system as claimed in claim 10 further comprising a means for taking a blocked beam reading when the vehicle is in the path of the source beam; and

a means for subtracting the blocked beam reading from the exhaust plume reading.

12. The system of claim 10, wherein the ambient reading is taken periodically at predetermined intervals and the most recent reading is stored and used in connection with the exhaust plume reading for each vehicle.

13. The system of claim 10, wherein the ambient reading is taken at the occurrence of a predetermined trigger event.

14. The system of claim 11, wherein the blocked beam reading measures baseline current or noise in the system, and where the blocked beam reading is taken after the ambient reading but before the exhaust plume reading.

15. The system of claim 10, wherein a range of wavelengths substantially centered around a characteristic wavelength is selected over which to take readings so that the number of data points for which there is no significant NO_x absorption is minimized.

16. The system of claim 10, wherein changes in the intensity of the source radiation are compensated by subtracting a baseline radiation intensity from each exhaust plume reading.

17. The system of claim 16, wherein the baseline intensity is calculated using a substantially linear region over an absorption dip.